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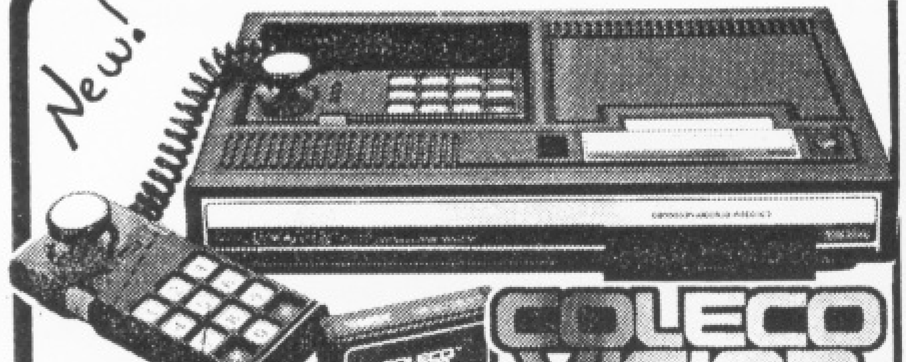
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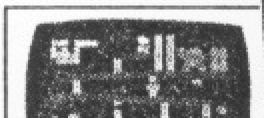
ISSUE TWO

FEBRUARY/MARCH 1983



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An ATARI™ magazine

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PAGE 6

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PAGE 6 is a Users magazine and relies entirely on readers support in submitting articles and programs. The aim is to explore Atari computing through the exchange of information and knowledge and we cannot unfortunately pay for articles published. We hope you will gain satisfaction from seeing your work published and in turn we hope you will learn from articles submitted by other readers.

Whilst we take whatever steps we can to ensure the accuracy of articles and programs submitted and the content of advertisements, PAGE 6 cannot be held responsible for any errors or claims made by advertisers.

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Editorial

NEW DIRECTIONS

Well, the response to Issue I was very gratifying. Thanks to all those of you who took the time to write in with letters, articles or programs - keep them coming. My apologies if there have been delays in answering your letters, it has been quite hectic. As stated in Issue I, the magazine was sparked off by the formation of the Birmingham User Group but the response from outside the group - even from abroad - has been so great that it has been decided that the magazine should be run as an independent entity. PAGE 6 will keep close ties with BUG and you will see their page in every issue but in order to reflect the interest shown from all around the U.K., the magazine will now be published by ABACUS - an independent User Group, the Around Britain Atari Computer Users Society. ABACUS will be modelled on the Independent National BBC User Group, LASERBUG in that its prime function will be to publish a magazine which will act as a forum for the exchange of ideas and information. It is hoped that PAGE 6 will encourage existing User Groups and individual users all over the U.K. - and abroad - to dig a little more deeply into their Atari computers and share their knowledge so that we may all both learn and teach. There is something new to learn each day in the world of Atari - perhaps with computing you continue to learn forever! I will try to share my enjoyment through the pages of PAGE 6, why don't you do likewise?

WHAT CAN YOU DO?

You can help in many ways even if you are only just beginning. Write in to the magazine with any thoughts - send in articles or program listings. If you can't manage that, then just write to the advertisers asking for details of their products - even buy something! We need their support as well.

One of the most exciting programs I have seen for a long time is TINY-TEXT featured in this issue. It opens up new horizons for 'serious' use of your Atari at minimal cost (nothing!). Get to grips with it and start sending cassettes to your Atari friends and to PAGE 6.

Some of the people who have phoned or written in have asked whether it is possible for them to be put in touch with other users in their area. If all the Atari User Groups could give me details of their activities and meeting places I will be happy to publish them and hopefully encourage new members. I can't of course give out people's names and addresses without their permission but again I am happy to start up a Contact page if you would like people to get in touch with you. If you can find a like mind there is no better way to learn and perhaps you can then share the fruits of your fertile new partnerships with other readers. This is a Users magazine and can only survive with User support. Let me know what you want to read or, if you have any special talent, write about something you really enjoy and together we can produce a really special magazine.

News

First news of the Atari 1200 seems to be good news for 800 owners. The only reported improvements so far are that the 1200 has 64K and four programmable function keys. On the other side of the coin, the 1200 has only one cartridge slot and 2 controller ports. This obviously means that Atari have abandonded any plans to bring out software for that second slot, but then there are an awful lot of 800's about and maybe some enterprising independent software house will bring out a cartridge which will run on the 800 and not the 1200. Atari's arguement for reducing the number of game controllers seems to be that there is not enough software around that needs to use 4 joysticks. One interesting thought though is that several people are beginning to develop printer interfaces that can be easily (and cheaply) connected to the existing 4 game ports. Could it be that these will not work with only 2 game ports and you will therefore be forced to buy the 850 interface once again? At something like £200 more for the 1200, one wonders why it is being brought out, but then maybe there is more inside, just like there is more in the 400's and 800's than the manuals would have you believe.

On the software front Atari have suddenly become very busy again. After what seemed to be a long while without any new games, Atari are now bringing out the arcade games in force. Galaxian has already been in the shops for 2 weeks and Defender should be available by the time you read this. Also in the pipeline in Qix although that may be a couple of months. On the serious side there should be a Microsoft Basic in ROM quite soon and also File Manager.

Choplifter, reviewed in the last issue should be available on ROM quite soon, so no need to buy that disk drive after all!

In the rumours department....watch out for a 3 inch Micro Drive at the end of the year and four-colour plotter-printer at only £150!

Atari have now come closer to sorting out the problems in repair delays by setting up a network of service centres around the U.K. Your local retailer should have a leaflet but if not, phone Atari on Slough (0753) 24561 for your nearest centre.

There's quite a buzz on the home front now as far as software goes. Apart from the new Adventure International mentioned last issue, watch out for U.K. written software from Liverpool based MicroSpot who hope to bring out a new game each month and a new series of Adventure games from Channel 8 Software. These promise to be of interest to those of you who have not upgraded, being 16K machine code adventures in the Scott Adams style, but written specifically for the Atari and featuring Display List Interrupts to add a bit more life to the text display. Expected to retail at £14.95

The new MicroNet service, heavily advertised in the computer press is expected to bring out an Atari compatible modem soon but no details yet of what software support can be expected.

Graphics...

```
5 REM *** SIMPLE GTIA DEMO ***
10 GRAPHICS 10:SETCOLOR 4,1,5
15 C=0
20 X=0:Y=0
22 X1=79:Y1=0
25 X2=79:Y2=191
27 X3=0:Y3=191
30 A=1
50 PLOT X,Y:DRAWTO X1,Y1
60 DRAWTO X2,Y2:DRAWTO X3,Y3
70 DRAWTO X,Y
80 COLOR X+C
90 X=X+A:Y=Y+A:X1=X1-A
100 Y1=Y1+A:X2=X2-A:Y2=Y2-A
110 X3=X3+A:Y3=Y3-A
120 IF X=40 THEN C=C+2:GOTO 20
130 GOTO 50
```

Input

Dear Sirs,

Firstly, congratulations on the magazine and good luck for the future.

I have a question which I hope you can answer. I recently had to break off in the middle of a long program and CSAVEd what I had onto two different cassettes. When I attempted to re-enter however, both showed an error of the Serial Bus type, one immediately and the other after about a minute of normal sounding operation. Is there any way I can salvage the section of the program prior to the error or must I re-do the whole thing?

T.C. Mayers
Leicester

**There is no easy way to recover a program which won't load. it should be possible to write a program that can read data as it is received and perhaps one of our readers can come up with one.

A program is recorded on tape in three seperate steps. Firstly a 20 second leader of mark tone followed by any number of data records and finally and End-of-File record. If the computer does not get to the End-of-File record you will end up with an error. There seem to be many problems with CSAVEing and CLOADing programs so a few hints may be helpful. Firstly, clean the tape heads REGULARLY with any proprietary tape head cleaner. Before CSAVEing any program, type LPRINT followed by RETURN. Ignore the error message and then CSAVE. This helps initialise the cassette handler properly. If you have problems in loading, try starting the tape a little further on or back. Try also moving the tape past the point which will not load by just turning on the cassette motor by POKEing 54018,52. Press SYSTEM RESET and try again. If readers know of any other hints let us know.

Dear Page 6,

I received issue 1 of PAGE 6 and was suitably impressed. I enclose my subscription.

I am a relatively in-experienced computer freak and any short programs like 'line lister' I find a great help. A few thoughts on items I am sure your readers will find useful - a conversion to Atari Basic of commands used by other computers to allow programs to be converted - useful parts of memory maps for the same purpose - an explanation of machine code - listings of other machines which use the 6502 processor - a list of User Groups in the U.K. - a list of useful addresses in the U.S.A - a possible breakdown in variables used in programs to help in understanding what's going on - a suggested reading list of books for novices - fault finding in your programs - and a simple adventure game.

I realise I am expecting quite a lot but these are some of things that are not covered in the books I have read and are the sort of things which most people would like to be able to find easily.

J. Dimmer
Elgin

**Wow! We will start work on some of these but this is a Users Magazine so there are a few ideas for readers to submit articles on. Lets hear from you for the benefit of other readers.

Dear PAGE 6,

Thank you for the first issue of the magazine, its just what we Atari owners need in this country.

If you live somewhere like I do where the availability of software and accessories is virtually non-existent, a magazine such as yours that keeps you up to date with the latest developments is most welcome.

Having to buy programs mail-order without seeing them first can sometimes be quite frustrating! Considering the wealth of software available is it possible for you to squeeze in a few more reviews?...Please!

D. Beech
Hull

**Thanks for your kind remarks. We will try to review all kinds of programs both old and new and if any readers feel they can write reviews of programs that they have and are very familiar with please let me know. It is difficult to give in-depth reviews on programs which you only have a couple of spare hours to look at!

Four in a Row 16K

Mike Aston

Pit your wits against the computer or an opponent in this simple to play but difficult to master game. If you are feeling really lazy, just sit back and watch the computer play itself!

The object is simple, just get Four In a Row, that is four blocks of your colour either vertically, horizontally or diagonally whilst trying to prevent your opponent from doing the same.

Enter each players name when prompted or if you wish to play the computer, enter * as the second player. To watch the computer play itself, enter * for each player's name. Good luck!

```
1 REM ***************************
2 REM *        FOUR IN A ROW    *
3 REM *        MIKE ASTON       *
4 REM ***************************
10 DIM NAME1$(8),NAME2$(8),NAME$(8)
20 DIM LINE(7)
30 FOR I=1 TO 7:LINE(I)=6:NEXT I
40 DIM TAB(7,6)
50 FOR I=0 TO 7:FOR J=0 TO 6:TAB(I,J)=
0:NEXT J:NEXT I
80 FOR I=1 TO 7:LINE(I)=6:NEXT I
90 GO=1
100 GRAPHICS 2
110 POSITION 12,5:? #6;CHR$(119):FOR I
=1 TO 50:NEXT I:POSITION 9,5:? #6;CHR$
(198)
115 FOR I=1 TO 99:NEXT I:POSITION 12,4
:? #6;CHR$(111):FOR I=1 TO 99:NEXT I:P
OSITION 11,5:? #6;CHR$(193)
120 FOR I=1 TO 99:NEXT I:POSITION 12,3
:? #6;CHR$(114):FOR I=1 TO 99:NEXT I:P
OSITION 12,2:? #6;CHR$(210)
125 FOR I=1 TO 99:NEXT I:POSITION 11,4
:? #6;CHR$(110):FOR I=1 TO 99:NEXT I:P
OSITION 11,3:? #6;CHR$(213)
130 FOR I=1 TO 99:NEXT I:POSITION 10,5
:? #6;CHR$(105):FOR I=1 TO 99:NEXT I:P
OSITION 10,4:? #6;CHR$(207)
140 POSITION 0,8:PRINT #6;"FIRST PLAYE
RS NAME":INPUT NAME1$
150 POSITION 0,9:PRINT #6;CHR$(115);CH
R$(101);CHR$(99);CHR$(111);CHR$(110);C
HR$(100);" ";
152 ? #6;CHR$(112);CHR$(108);CHR$(97);
CHR$(121);CHR$(101);CHR$(114);CHR$(115
);" ";
154 ? #6;CHR$(110);CHR$(97);CHR$(109);
CHR$(101)
160 INPUT NAME2$
300 GRAPHICS 7
305 POKE 559,0:REM TEMPORARILY DISABLE
 SCREEN
310 COLOR 3
315 GOSUB 10000
320 SETCOLOR 4,0,7
325 POKE 559,34:REM RESET SCREEN THEN
DRAW INITIAL BOXES
330 PLOT 42,9:DRAWTO 42,70:DRAWTO 157,
70:DRAWTO 157,9:DRAWTO 43,9:DRAWTO 43,
69
340 PLOT 156,9:DRAWTO 156,70
350 FOR Y=10 TO 60 STEP 10
360 FOR X=44 TO 140 STEP 16
370 PLOT X,Y:DRAWTO X+15,Y:DRAWTO X+15
,Y+9:DRAWTO X,Y+9:DRAWTO X,Y
380 PLOT X+1,Y+1:DRAWTO X+1,Y+8
390 PLOT X+14,Y+1:DRAWTO X+14,Y+8
400 NEXT X:NEXT Y
410 FOR C=1 TO 2
420 COLOR C:X=(C-1)*14:XP11=X+11
430 FOR Y=9 TO 69 STEP 3
440 PLOT X,Y:DRAWTO XP11,Y
450 PLOT X,Y+1:DRAWTO XP11,Y+1
460 NEXT Y:NEXT C
465 SETCOLOR 3,0,0
470 POKE 87,1
480 FOR I=1 TO 7:POSITION 4+2*I,1:? #6
;CHR$(144+I):NEXT I
490 POKE 87,7
500 IF GO=1 THEN NAME$=NAME1$
510 IF GO=2 THEN NAME$=NAME2$
520 GOSUB 700
530 IF NAME$="*" THEN GOTO 4000
540 PRINT "YOUR GO ";NAME$
550 PRINT
560 TRAP 620
570 INPUT COLNO
580 IF COLNO<1 THEN GOTO 620
590 IF COLNO>7 THEN GOTO 620
600 IF LINE(COLNO)=0 THEN GOTO 620
610 TRAP 40000
615 GOTO 1000
620 ? "TRY AGAIN ";NAME$
630 GOTO 550
700 Y=9+CT*3
710 X=(GO-1)*14:XP11=X+11
720 FOR V=Y-1 TO 7 STEP -1
730 COLOR GO:PLOT X,V:DRAWTO XP11,V
740 COLOR 0:PLOT X,V+2:DRAWTO XP11,V+2
750 NEXT V
760 COLOR GO
770 FOR V=6 TO 1 STEP -1
780 PLOT X,V:DRAWTO X+11,V
```

...... over

```
790 NEXT V
800 FOR V=X TO 28
810 COLOR GO:PLOT V+12,1:DRAWTO V+12,8
820 COLOR 0:PLOT V,1:DRAWTO V,8
830 NEXT V
840 RETURN
1000 LINE(COLNO)=LINE(COLNO)-1
1010 Y=11+LINE(COLNO)*10
1020 X=(COLNO-1)*16+46
1030 FOR V=28 TO X-1
1040 COLOR GO:PLOT V+12,1:DRAWTO V+12,
8
1050 COLOR 0:PLOT V,1:DRAWTO V,8
1060 NEXT V
1070 FOR V=1 TO Y-1:VP8=V+8
1080 I=VP8-10*INT(VP8/10):IF I<>0 AND
I<>9 THEN COLOR GO:PLOT X,VP8:DRAWTO X
+11,VP8
1090 I=V-10*INT(V/10):IF I<>0 AND I<>9
 THEN COLOR 0:PLOT X,V:DRAWTO X+11,V
1100 NEXT V
1190 TAB(COLNO,LINE(COLNO))=GO
1200 WIN=0
1210 GOSUB 2000
1220 IF WIN=1 THEN GOTO 1500
1300 IF GO=1 THEN GO=2:GOTO 500
1310 IF CT=20 THEN ? "DRAWN GAME":GOTO
 1510
1320 GO=1:CT=CT+1:GOTO 500
1500 ? NAME$;" IS THE WINNER"
1510 ? :? "DO YOU WISH TO PLAY AGAIN?
Y/N";
1520 INPUT NAME$
1530 IF NAME$<>"Y" AND NAME$<>"N" THEN
 GOTO 1510
1540 IF NAME$="Y" THEN RUN.
1550 GRAPHICS 2+16
1560 ? #6;"GOODBYE":? #6:? #6;"THANKYO
U FOR PLAYING"
1570 FOR I=1 TO 200:NEXT I:END
2000 X=COLNO
2010 Y=LINE(X)
2020 NO=1
2100 X=X-1
2110 IF X=0 THEN GOTO 2200
2120 SQ=TAB(X,Y)
2130 IF SQ<>GO THEN GOTO 2200
2150 NO=NO+1
2160 IF NO=4 THEN WIN=1:RETURN
2170 GOTO 2100
2200 X=COLNO
2300 X=X+1
2310 IF X=8 THEN GOTO 2400
2320 SQ=TAB(X,Y)
2330 IF SQ<>GO THEN GOTO 2400
2350 NO=NO+1
2360 IF NO=4 THEN WIN=1:RETURN
2370 GOTO 2300
2400 X=COLNO:Y=LINE(X):NO=1
2500 Y=Y+1
2510 IF Y=6 THEN GOTO 2600
2520 SQ=TAB(X,Y)
2530 IF SQ<>GO THEN GOTO 2600
2540 NO=NO+1
2550 IF NO=4 THEN WIN=1:RETURN
2560 GOTO 2500
2600 X=COLNO:Y=LINE(X):NO=1
2700 Y=Y+1:X=X-1
2710 IF X=0 OR Y=6 THEN GOTO 2800
2720 SQ=TAB(X,Y)
2730 IF SQ<>GO THEN GOTO 2800
2740 NO=NO+1
2750 IF NO=4 THEN WIN=1:RETURN
2760 GOTO 2700
2800 X=COLNO:Y=LINE(X)
2900 Y=Y-1:X=X+1
2910 IF X=8 OR Y<0 THEN GOTO 3000
2920 SQ=TAB(X,Y)
2930 IF SQ<>GO THEN GOTO 3000
2940 NO=NO+1
2950 IF NO=4 THEN WIN=1:RETURN
2960 GOTO 2900
3000 X=COLNO:Y=LINE(X):NO=1
3100 Y=Y-1:X=X-1
3110 IF X=0 OR Y<0 THEN GOTO 3200
3120 SQ=TAB(X,Y)
3130 IF SQ<>GO THEN GOTO 3200
3140 NO=NO+1
3150 IF NO=4 THEN WIN=1:RETURN
3160 GOTO 3100
3200 X=COLNO:Y=LINE(X)
3300 Y=Y+1:X=X+1
3310 IF X=8 OR Y=6 THEN GOTO 3400
3320 SQ=TAB(X,Y)
3330 IF SQ<>GO THEN GOTO 3400
3340 NO=NO+1
3350 IF NO=4 THEN WIN=1:RETURN
3360 GOTO 3300
3400 RETURN
4000 COLNO=1
4002 IF LINE(COLNO)=0 THEN 4030
4004 LINE(COLNO)=LINE(COLNO)-1
4006 TAB(COLNO,LINE(COLNO))=GO
4010 GOSUB 2000
4016 TAB(COLNO,LINE(COLNO))=0
4018 LINE(COLNO)=LINE(COLNO)+1
4020 IF WIN=1 THEN GOTO 1000
4030 COLNO=COLNO+1
4040 IF COLNO<8 THEN GOTO 4002
4100 STCOL=GO
4200 IF GO=1 THEN GO=2:GOTO 4220
4210 GO=1
4220 COLNO=1
4222 IF LINE(COLNO)=0 THEN GOTO 4250
4224 LINE(COLNO)=LINE(COLNO)-1
4226 TAB(COLNO,LINE(COLNO))=GO
4230 GOSUB 2000
4236 TAB(COLNO,LINE(COLNO))=0
4238 LINE(COLNO)=LINE(COLNO)+1
4240 IF WIN=1 THEN GO=STCOL:GOTO 1000
4250 COLNO=COLNO+1
4260 IF COLNO<8 THEN GOTO 4222
```

.............GOTO 17

Joysticks ...

Jeff Woodward

All you 'arcade' game players out there must agree that a more sensitive joystick would be a boon to our game playing enjoyment. I have found that the standard Atari joystick starts to lose its 'reaction' on certain types of game that require FAST and true responses from the stick. I can bring to mind playing Asteroids and pushing the stick forward to fly my spacecraft round the screen only to find that I am totally out of control and whizzing (or should that Hyper-warping?) all over the screen. Alternatives that have been introduced up to now I have found very much the same. I can think of LE STICK which I think would eventually give you Rubik's Wrist in five easy movements! I also find with the standard joystick that it also gives you hand fatigue after extensive play. There are two general positions in which the right handed player can hold the stick. Grasping the stick handle in his right hand, he can either hold the base in his left, or put the base on the table or floor and use his left hand to steady it against a flat surface. In either case, while the left hand is trying to keep the base steady, the right hand is jerking the stick around in order to register the press. The effect of this is that the right hand is always trying to tear the base from the grasp of the left. Since the right hand has the leverage of the stick working for it, the left must work much harder to steady the base, all the while holding it in an awkward position. The fatigue that results is nature's way of telling you to turn the T.V. off! Also note that I have been talking about RIGHT HANDED people only. All you lefties must get to be ambidexterous real quick - Atari never thought of you! I have seen the K-Byte Stick Stand but I personally believe this gadget will soon become known as the 'Stick-Breaker'.

In ANALOG magazine Issue 5, a guy wrote in showing how you can wire up a push button controller just like the original Asteroids controllers on the arcade machines and he said it worked equally well on Space Invaders. The problem is I do not know where you can buy the input plugs but the rest of the hardware he describes is easily obtainable. Can any reader help?

I have not tried the new 'Trackball' controllers but at over £50 each, there must be a cheaper way to play games. What about someone coming up with a project for a joystick or controller, I am sure we would all be interested?

ORIGINAL ADVENTURE . . . A FOOTNOTE

The author Robert A. Howell has recently written to me and has stated that anyone interested in buying this program direct from his house can do so. He will send you a copy off for $22.35 (about £13.50) including Air Mail postage, if you send him an International Money Order. His address is:-

Robert A. Howell,
20, Richmond Road,
Hudson, NH 03051,
U. S. A

This is for the 32K tape version.

CHANGING COLOURS

When you have a long listing to type in, do you get fed up with the 'standard' blue screen and black border with white characters? Well here are two POKE's that will change all that.

Before you start typing in that magic program, type, in the 'Direct Mode', i.e. without using a line number, POKE 710,n where n represents any number from 0 to 255. This will set the main screen colour to whatever you wish and make the characters anything from black to invisible! Experiment until you find a colour that suits you. Then type POKE 712,n where n is the same number as before for a screen all of the same colour or some other number for a contrast. No more strain on the eyes! Choose your own favourite colour!

GTIA Modes

Phil Griffin

When the basic Manuals were written the Atari computers were capable of only 9 graphics modes (Modes 0 to 8) available directly from Basic. With the introduction of the GTIA (George's Television Interface Adaptor) chip to replace the old CTIA chip, the computers now have the added facility of Graphics Modes 9, 10 & 11. This fact is reasonably well publicised but there's not a lot of literature around to tell you how to use these modes. The object of this article is to give a brief explanation of what the 3 extra graphics modes are capable of and how to use them.

All 3 modes have a resolution of 80 horizontal points (0 to 79) by 192 vertical points (0 to 191). They all respond to PLOT, DRAWTO and XIO (fill) instructions. Although modes 9 and 11 are relatively straightforward to use, mode 10 is a little more tricky.

GRAPHICS MODE 9

In this mode you are able to plot points in a single 'line' with up to 16 variations in luminance (brightness) which is ideal for 3-D light and shade drawings. The default colour setting for the background is black and the luminance of the points to be plotted is set with the COLOR command (COLOR 0 to 15) immediately prior to plotting. Plotting in COLOR 0 effectively plots the background colour (black) while COLOR 15 plots in white. Running Program 1 will show the range of luminances available.

Program 2 is a modified version of the 'cylinders' program which appeared in Issue 1 of PAGE 6 and is included as a demonstration of the effects available with mode 9. You will see that the overall colour of the display can be altered by using the SETCOLOR command (SETCOLOR 4, (hue) ,0). The 'hue' is selected from the range of 16 colours available and the values to set the 'hue' are shown in Table 1.

```
10 GRAPHICS 9
20 FOR I=0 TO 15:COLOR I:FOR J=J TO J+
10:PLOT 0,J:DRAWTO 79,J:NEXT J:NEXT I
100 GOTO 100
```

PROGRAM 1

```
5 REM ** CYLINDERS II **
10 Y1=120:Y=58
20 GRAPHICS 9:FOR X=50 TO 0 STEP -10:X
1=X:A=1:B=15:C=1:GOSUB 100:A=15:B=1:C=
-1:GOSUB 100:Y=Y-10:Y1=Y1+10:NEXT X
30 FOR K=1 TO 3:FOR Z=0 TO 3:SETCOLOR
4,Z,0:FOR T=1 TO 1000:NEXT T:NEXT Z:NE
XT K:GOTO 10
100 FOR K=A TO B STEP C:K1=K:IF K>12 T
HEN K1=12
110 COLOR 15-K:PLOT X1,Y-2-K1/3:DRAWTO
 X1,Y+K1/3:COLOR K:PLOT X1,Y+1+K1/3:DR
AWTO X1,Y1+K1/3:X1=X1+1:NEXT K:RETURN
```

PROGRAM 2

GRAPHICS MODE 11

In many respects this mode is the opposite of mode 9. You are able to plot points in any of the 16 'hues' but at a single selectable luminance. The colour is set with the COLOR command (COLOR 0 to 15) immediately prior to plotting the points. Substituting 'GRAPHICS 11' for 'GRAPHICS 9' in program 1 will show the range available in default colours (see table 1). Plotting in COLOR 0 again effectively plots in the background colour (black). The luminance of the colours displayed can be altered by using the SETCOLOR command (SETCOLOR 4,0, luminance). The values for the luminance setting are even numbers between 0 and 14.

GRAPHICS MODE 10

This is the tricky one. Graphics mode 10 is capable of producing 9 colours on the screen at the same time, each at a different luminance. Unfortunately not all of these colours can be called directly from Basic by the COLOR and

SETCOLOR commands and in order to use the full colour capabilities, you need to be familiar with how the SETCOLOR command works within a color register.

The SETCOLOR statement contains - Specific references to a colour register, a 'hue' and a luminance for that hue. The computer then converts this information into a memory location for the color register and a single value for the hue and luminance selected. This value is then automatically 'poked' into the color register memory location. The basis for calculation of the value to be poked is:

POKE value = ('hue' value * 16)+ luminance value.

Table 1 shows the range of values that the 'POKE' value can have together with the equivalent hue and luminance figures.

COLOR (HUE)	HUE VALUE (SETCOLOR)	LUMINANCE (EVEN VALUES)	POKE (EVEN VALUES)
Black-white	0	0 - 14	0 - 14
Gold	1	0 - 14	16 - 30
Orange	2	0 - 14	32 - 46
Red	3	0 - 14	48 - 62
Pink	4	0 - 14	64 - 78
Violet	5	0 - 14	80 - 94
Blue-purple	6	0 - 14	96 - 110
Blue	7	0 - 14	112 - 126
Light-blue	8	0 - 14	128 - 142
Blue-green	9	0 - 14	144 - 158
Aqua	10	0 - 14	160 - 174
Green-blue	11	0 - 14	176 - 190
Green	12	0 - 14	192 - 206
Yellow-green	13	0 - 14	208 - 222
Orange-green	14	0 - 14	224 - 238
Orange	15	0 - 14	240 - 254

TABLE 1 - SETCOLOR VALUES AND EQUIVALENT POKE VALUES.

The Atari computer uses 5 color registers (0 to 4) within its operating system and these have default settings as shown in Table 2.

REGISTER NUMBER	SCREEN COLOUR	DEFAULT VALUES HUE	LUM	MEMORY LOC.
0	Orange	2	8	708
1	Aqua	12	10	709
2	Blue	9	4	710
3	Light red	4	6	711
4	Black	0	0	712

TABLE 2: COLOUR REGISTERS WITH DEFAULT VALUES

Instead of using a SETCOLOR Statement, its possible to by-pass the Basic commands and POKE a combined colour value directly into the color register memory location. Some examples of direct 'POKEs' with their SETCOLOR equivalents are shown below.

POKE	SETCOLOR
708,34	SE.0,2,2
710,142	SE.2,8,14
712,52	SE.4,3,4

You should now have a reasonable idea of how to set the colour within a color register by POKEing a value directly into the register memory location.

If you now substitute 'GRAPHICS 10' for 'GRAPHICS 9' and '8' for '15' in line 20 of program 1 you will find that the screen contains 4 coloured bands. These correspond to COLOR statements 4 to 7 and show their default colours. The program has in fact drawn 9 bands of colour but 5 of them are set to the default colour of black. The position is summarised in Table 3.

You can see from Table 3 that the only way to alter the colours plotted in COLOR statements 0 to 3 is to POKE values directly into the memory locations shown. The other COLOR statements can have their colours changed by using the SETCOLOR command, but its probably better to keep to the POKE instruction throughout. Goto13

Feature Review

ASTRO CHASE 32K Disk/Cass. 1 Player

Fernando Herrera was the first winner of Atari's annual 'Star Award' for a program he wrote for his little boy called My First Alphabet. Most of you will have heard of the program but many will not have seen it as it is only available on disk due to the fact that it has to access a large number of pictures throughout the program. The idea is very simple - just show the letters of the alphabet accompanied by pictures which represent those letters. Sounds as if anyone can do it, doesn't it? The secret of Mr. Herrera's success though is an exceptional talent for graphic composition and a skilful mind in structuring the program to achieve the desired result.

With his $25,000 prize in his pocket Fernando promptly set up First Star Software Inc. and took a crash course in machine language. Now, writing an alphabet program out of love for his son is one thing, but to write a successful arcade game to launch a new company is surely something else. Does he succeed? Take a look at ASTRO CHASE and you will find that the answer is an unqualified 'Yes'.

The scenario is that the Megard Empire has surrounded the earth with a force field and placed pulsating Mega Mines which are slowly advancing on the earth. Your mission is to destroy all the mines whilst fighting off the Megard saucers. Sounds familiar? Sounds just like the sort of blurb that poor programmers use to dress up their latest Space Invader variation, but ASTRO CHASE is very different. It begins with an excellent blast-off animation to take you into space from where you see the earth, complete with a map of North and South America, surrounded by various other planets. You can't see the force field but it is there preventing you from straying too far. There are eight types of enemy fighters at the various levels but your real task is to destroy 16 mines which are slowly but surely making their way towards earth. Fernando has invented something he calls 'Single Thrust Propulsion' which means that you can set your craft in motion and it will carry on in that direction whilst you fire in any direction around you! It takes some getting used to but is a great joy once you get it right. Each of your craft will use up energy but there are energy posts at the limits of the available universe if you can get to them and 'shield' bases to give you up to 10 seconds of protection from enemy fire. The enemy saucers are not too difficult to destroy but the real problem is bumping into a 'hot star' whilst being pursued. These are tiny pinpoints which don't do you any damage as such but which you can get stuck on and so destroyed by a pursuing enemy craft.

The graphics on this are quite stunning but Fernando has gone much further and crafted a game in which he appears to have thought of everything. There are 34 levels, but if you are good you can start at any level up to 24. So as not to spoil the fun the higher levels can only be obtained by completing level 24. The best feature to my mind however and what sets this apart as an exceptional arcade game is that every 4 levels you come back to earth for a rest and each time can enjoy an animation sequence which adds a little more to the previous one. I get bored with arcade games which just give you points and more points but finding out what the next animation sequence is going to be has got me absolutely hooked! I have only managed it to level 20 and I fear that I will not improve so if somebody gets up to the Master levels let me know what happens.

The game has excellent graphics, scrolls, has music which automatically turns itself down while you are fighting! or which can be turned off and surely marks a big step forward in game design. First Star Software has set itself a big task to follow this but if they can do it they stand a chance of becoming THE Atari Software house to avidly watch in the future.

SILLY CIRCLES

Mike Aston

Explore the Atari Display Lists with this shape changing program. Here's how it works.

LINE 10 - establishes a standard display list for mode 7.
LINES 20 to 60 - draw a circle.
LINE 100 - sets the pointer to the display list.
LINES 150 to 250 - change the display list a line at a time from the standard 4 colour mode with 96 vertical rows to a 4 colour mode with 192 vertical rows on a full screen. This effectively halves the height of the circle producing an elliptical shape.

Try changing LINE 150 to Z=-1, or Z=-2, or Z=-3.

Add more colours to the circle or change the original shape. You could also try starting off in a different graphics mode but don't forget to make LINE 10 specify the mode with the largest RAM requirement that you are going to use.

```
5 REM ****      SILLY CIRCLES      ****
6 REM **             by              **
7 REM ****       MIKE ASTON        ****
8 REM
10 GRAPHICS 7+16:COLOR 1
20 DEG :CX=80:CY=40:L=39
30 FOR I=1 TO 360
40 X=COS(I)*L:Y=SIN(I)*L
50 PLOT CX+X,CY+Y
60 NEXT I
100 DLIST=PEEK(560)+PEEK(561)*256+4
150 Z=1
200 FOR I=2 TO 96
210 P=PEEK(DLIST+I)+Z
220 POKE DLIST+I,P
230 NEXT I
240 Z=-Z
250 GOTO 200
300 END
```

GTIA . . . Cont.

COLOR	SETCOLOR REGISTER	DEFAULT COLOUR	MEMORY LOC.
0	N/A	Black	704
1	N/A	Black	705
2	N/A	Black	706
3	N/A	Black	707
4	0	Orange	708
5	1	Aqua	709
6	2	Blue	710
7	3	Light red	711
8	4	Black	712

Note: Memory location 704 controls the background colour

TABLE 3:COLOR STAETEMENTS IN GRAPHICS MODE 10

In summary then, graphics displays using mode 10 require the following steps.

1) The selection of the colours required.
2) The setting (at some stage in the program) of each selected colour to its own COLOR statement by using POKE instructions.
3) The plotting of points using the relevant COLOR statements

That really concludes this introduction to the world of GTIA. The addition of the new graphics modes gives Atari users even greater flexibility in their approach to graphics displays. In particular, Graphics Mode 10 opens up the possibility of high speed colour animation simply by moving colours through the colour registers. Finally, don't be afraid to experiment with these modes. You can't do any harm to the computer if you make mistakes, but you can learn an awful lot. If you come up with some interesting graphics displays using these modes send them in.

Just to give you a starter in the possibilities of animation try making these changes to program 2 - LINE 20 change 'GRAPHICS 9' to 'GRAPHICS 10'. LINE 30 change 'GOTO 10' to 'GOTO 200' and add line 200:-

```
200 P=PEEK(708): POKE 708,PEEK(709):
POKE 709,PEEK(710):POKE 710,PEEK(711):
POKE 711,PEEK(712):POKE 712,P:GOTO 200
```

Play Your Cards

Les Ellingham

One of the more simple games to program would seem to be a card game but if you are just starting to learn Atari Basic the task may not be as simple as it seems. In this article I present you with a pack of cards for you to turn into whatever game takes your fancy.

Graphics 1 would seem to be the ideal choice for a card game using the control characters representing the card suits but unfortunately there is not enough room on the screen to feature sufficient cards. This program uses Graphics 0 and so looses the option of colour for the 'pips' but does allow up to ten cards on the screen.

Let's go through the listings. The first listing creates the pack of cards and in LINES 50 - 75 goes through the entire pack to allow you to check that everything is alright. You can add Listing 2 later as an example of how to deal the cards.

LINE 10 - Dimensions strings. A$ holds the entire pack whilst the CARD strings hold individual cards to be picked by random routines in listing 2.
LINES 20 - 25 fill the strings with the same characters. In the case of A$ the 'pips' are poked in later.
LINE 28 opens the Keyboard for direct input later in the game.
LINES 30 - 35 set some colour and put a title up while the program creates the cards in the routine beginning with LINE 400.
LINES 400 - 490 are the 'card-making' routine.
LINE 410 goes through the 52 cards and first reads the CARDNO from the DATA which is the number of 'pips' on each card.
LINES 411 - 414 change the characters from hearts to clubs to diamonds to spades. Refer to Appendix C of the Basic Manual.
LINE 420 reads the position of each 'pip' and places the appropriate character in the correct place in the string.
LINE 440 Restores the DATA for each of the four suits.
LINES 460 - 480 step through the 11th, 12th and 13th cards of each suit to add the letters representing the court cards.

The program then goes back to line 50 to run through the pack.

```
10 DIM A$(3276),CARD1$(63),CARD2$(63),
CARD3$(63),CARD4$(63),BACK$(63)
20 A$(1)=" ":A$(3276)=" ":A$(2)=A$:REM
 INVERSE VIDEO SPACES
25 BACK$(1)="#":BACK$(63)="#":BACK$(2)
=BACK$:REM INVERSE VIDEO #
28 OPEN #1,4,0,"K:"
30 SETCOLOR 2,11,4:SETCOLOR 4,11,4:SET
COLOR 1,11,15:POKE 752,1
35 ? CHR$(125):POSITION 12,10:? "PLAY
YOUR CARDS"
40 GOSUB 400:? CHR$(125)
50 REM GO THROUGH THE CARDS
55 FOR CARDS=0 TO 51
60 FOR I=1 TO 9:POSITION 0,I-1:? A$(CA
RDS*63+I*7-6,CARDS*63+I*7):NEXT I
65 CARD3=INT(RND(0)*52+1):IF CARD3=CAR
D2 OR CARD3=CARD1 THEN 65
70 FOR D=1 TO 100:NEXT D
75 NEXT CARDS
398 END
400 CARDNO=1
410 FOR I=0 TO 51:READ CARDNO:FOR J=1
TO CARDNO
411 IF I<13 THEN SUIT=128:GOTO 420
412 IF I<26 THEN SUIT=144:GOTO 420
413 IF I<39 THEN SUIT=224:GOTO 420
414 SUIT=251
420 READ A:A$(A+I*63,A+I*63)=CHR$(SUIT
)
430 NEXT J
440 IF I=12 OR J=25 OR I=38 THEN RESTO
RE
450 NEXT I
460 FOR I=10 TO 49 STEP 13
461 FOR K=0 TO 2
465 FOR J=1 TO 2
470 READ A,B:A$((I+K)*63+A,(I+K)*63+A)
=CHR$(B)
474 NEXT J
475 NEXT K:RESTORE 540
480 NEXT I
490 RETURN
500 DATA 1,32,2,11,53,3,11,32,53,4,9,1
3,51,55,5,9,13,32,51,55
510 DATA 6,9,13,30,34,51,55,7,9,13,30,
34,32,51,55,8,9,13,18,30,34,46,51,55
520 DATA 9,9,13,23,27,32,37,41,51,55,1
0,9,13,18,23,27,37,41,46,51,55
530 DATA 2,9,55,2,9,55,2,9,55
540 DATA 10,202,54,202,10,209,54,209,1
0,203,54,203
```

There's your pack of cards. Now add listing 2 to see how these can be dealt out. The program picks 4 random numbers to represent four cards and makes sure that you don't have two cards the same. Each card is made up of 63 characters and these are picked out of A$ at the appropriate point and put into the CARD strings. These are then printed out line by line at set positions on the screen to give you your 'deal'.

```
50 REM * DEMONSTRATION BLACKJACK DEAL
*
55 CARD1=INT(RND(0)*52+1)
60 CARD2=INT(RND(0)*52+1):IF CARD2=CAR
D1 THEN 60
65 CARD3=INT(RND(0)*52+1):IF CARD3=CAR
D2 OR CARD3=CARD1 THEN 65
70 CARD4=INT(RND(0)*52+1):IF CARD4=CAR
D3 OR CARD4=CARD2 OR CARD4=CARD1 THEN
70
75 CARD1$=A$(CARD1*63-62,CARD1*63)
80 CARD2$=A$(CARD2*63-62,CARD2*63)
85 CARD3$=A$(CARD3*63-62,CARD3*63)
90 CARD4$=A$(CARD4*63-62,CARD4*63)
100 FOR I=1 TO 9:POSITION 0,I-1:? CARD
1$(I*7-6,I*7):NEXT I
110 FOR I=1 TO 9:POSITION 8,I-1:? BACK
$(I*7-6,I*7):NEXT I
120 FOR I=1 TO 9:POSITION 0,I+9:? CARD
3$(I*7-6,I*7):NEXT I
130 FOR I=1 TO 9:POSITION 8,I+9:? CARD
4$(I*7-6,I*7):NEXT I
140 POSITION 2,21:? "PRESS ANY KEY FOR
 DEALER'S CARD":GET #1,K
150 FOR I=1 TO 9:POSITION 8,I-1:? CARD
2$(I*7-6,I*7):NEXT I
160 POSITION 2,21:? "PRESS ANY KEY FOR
 NEXT DEAL    ":GET #1,K
170 ? CHR$(125):GOTO 50
```

What you do now is up to you - blackjack, poker, snap (!) or whatever. Add scoring, a money pot, anything you wish. If you can make up a good game send it in for a future article.

GTIA Text Window

Colin Boswell

One slight disadvantage of the GTIA modes 9, 10 & 11 is that you can't easily mix text with your graphics displays.

With this short program you can now add a standard text window to these modes. Most of what is happening is shown in the REM statements and you should be able to quite easily build up your own programs incorporating these routines.

```
5 REM LET'S SET UP FOR A TEXT AND GTI
A GRAPHICS MODE
10 FOR M=9 TO 11:GOSUB 1000
15 REM PUT SOMETHING ON THE SCREEN
20 FOR Y=0 TO 15:COLOR Y:PLOT 0,0
30 DRAWTO 60,Y*10:NEXT Y
35 REM NOW LETS SHOW OFF OUR NEW TEXT
WINDOW
40 ? "THIS IS GRAPHICS ";M
50 FOR T=1 TO 100:NEXT T
60 NEXT M
998 END
999 REM M CONTAINS THE GRAPHICS MODE
1000 IF M<9 OR M>11 THEN 1080
1010 REM READ IN THE DISPLAY LIST ROUT
INE
1020 RESTORE :FOR X=1536 TO 1554:READ
A:POKE X,A:NEXT X
1025 REM SET UP DISPLAY LIST FOR GR.8
AND FIND THE BEGINNING OF THE DISPLAY
LIST
1030 GRAPHICS 8:DL=PEEK(560)+PEEK(561)
*256
1032 REM FIND THE LINE THAT LIES BEFOR
E TEXT AREA AND INSERT DISPLAY LIST IN
TERRUPT
1035 DL=DL+166:POKE DL,143
1037 REM ENABLE INTERRUPT STARTING AT
PAGE 6,SET BITS 6 + 7 FOR GTIA OPERATI
ON AND TELL O.S. WHAT MODE TO WORK IN
1040 POKE 512,0:POKE 513,6:POKE 54286,
192:POKE 623,(M-8)*64:POKE 87,10
1045 REM DIFFERENT VALUES FOR DIFFEREN
T MODES !
1050 SETCOLOR 4,0,0:IF M=11 THEN SETCO
LOR 4,0,4
1070 RETURN
1080 IF M>24 AND M<28 THEN M=M-16:GRAP
HICS M:RETURN
1085 REM DATA FOR D.L.I. ROUTINE
1090 DATA 72,173,27,208,41,63,141,10,2
12,141,27,208,169,0,141,26,208,104,64
```

Product Reviews

VICTAGRAPH PLOT WINDOW

Whilst the Atari is capable of excellent graphics displays in modes 7 or 8 there is no denying that it is a laborious task indeed to get a picture from paper to screen. The traditional way would be to trace the original drawing and then transfer to graph paper, finally either numbering the squares on the graph paper or counting along to find the plot position. Anything that can make this task easier must be worth looking at. The best answer of course is to use a digitizer. The only one generally available at the moment is Versa Writer but at £169 you need to do an awful lot of drawing to make it worth while. The Victagraph which retails at £7.00 won't take away the chore of finding all those Plot and Drawto points but it does make the job much easier. The Victagraph is described as a Plot Window and comes as four sheets of plastic measuring 17 inches by 12 inches. One is a white base sheet, two are see-through sheets with scales of 320 horizontally by 200 vertically and the final sheet is a clear mask with sights at each corner which enable you to plot and read off points. You may not think that that is a lot for £7 but there has been no attempt to use cheap materials, the plastic is of a very heavy gauge and the printed scales very clear and professionaly done. It comes in a protective cardboard sleeve which even the most heavy handed postman could not damage! There are two pages of instructions which are written in a friendly way although they do seem to make the use of the device seem more complicated than it really is. To use, you merely place a drawing on the base sheet, overlay a plot window and then use one of the sights on the window mask to go round your drawing and read the horizontal and vertical co-ordinates for each point. Once you get used to it, reading off points is very easy and very fast. You would probably be persuaded to try some fairly complex designs in Graphics 8 to which the scales are ideally suited. It can cope with the other Graphics modes with either a smaller drawing or by scaling down.

The Victagraph certainly makes picture drawing easier. Don't be mislead, you still have to figure out the Plot and Drawto points but it definitely beats tracing and counting up graph squares.

COMPUTER GAMING WORLD MAGAZINE

COMPUTER GAMING WORLD is a 48 page glossy American magazine which has just celebrated its first year but has only just become available over here. It is distributed in the U.K. by Games Workshop.

Games Workshop are heavily into Dungeons and Dragons and Wargaming and it might be expected therefore that Computing Gaming World will reflect similar interests. It does. Its content consists almost entirely of reviews - all written by readers - but these are not the normal half page game descriptions you find in most magazines, but full length, in depth, discussions of game design, strategy and tactics. Would you believe a three and one third page review of Chris Crawford's new game, Legionnaire? Most of the strategy type games currently available are written for the Apple but Computer Gaming World has a surprising amount of interest to the Atari owner. Reviews are broken down into three categories. Mini reviews which merely give you a brief description of what you can expect to see in the near future, Micro Reviews which are more like the normal magazine reviews and Feature reviews which really go to town like the review of Legionnaire. The current issue (Dec/Jan) has 29 mini reviews of which 8 are Atari but then most of the Apple ones will soon be available on Atari, four Micro Reviews of Atari games, the review of Legionnaire and a full article on how you can change Eastern Front if you don't like the way it plays! In addition to all that, the next issues will feature a regular Atari column.

DISK DIRECTORY

Colin Friston

One of the most common uses for DOS on your disks is to obtain a directory of the contents. How many of us can remember all the file names we make up? DOS on every disk will take up 81 sectors but here is a program that will give you a directory on screen or on the printer at a cost of only 8 sectors per disk.

I usually file as "DIR" so that it can be accessed simply by RUN "D: DIR". The program opens an IOCB to the disk drive directory and runs between lines 40 and 60 getting all directory entries. At the end of file the program traps to line 90 and gives an optional printout. A trap to line 100 is included to cover the printer being out of commission. The program is a fast way to recall and record what is on each disk without having to go into DOS.

Next issue I will show you a Master Directory which will give you a catalog of all your disk entries,

```
1 REM ***************************
2 REM *       DISK DIRECTORY     *
3 REM *             by           *
4 REM *       COLIN FRISTON      *
5 REM ***************************
6 REM
10 DIM A$(20),B$(20):TRAP 70:OPEN #1,6
,0,"D:*.*"
20 GRAPHICS 0:POKE 752,1:POKE 712,176:
POKE 710,176:? "        DISK NUMBER DIR
ECTORY"
30 ? "          MMMMMMMMMMMMMMMMMMMMM":RE
M CONTROL M TO UNDERLINE
40 INPUT #1;A$
50 P=P+1:IF P=21 THEN POKE 82,20:POSIT
ION 20,3
60 ? A$:GOTO 40
70 CLOSE #1:POKE 82,2:OPEN #2,4,0,"K:"
80 POSITION 0,23:? "             HIT Y FO
R PRINTOUT          ";:GET #2,K:IF K<>89 T
HEN 170
90 TRAP 100:LPRINT :GOTO 110
100 POSITION 7,23:? "PRINTER DOES NOT
RESPOND !";:FOR T=1 TO 1000:NEXT T:GOT
O 80
110 TRAP 160:OPEN #1,6,0,"D:*.*"
120 LPRINT :LPRINT "              **
NUMBER      **"
130 LPRINT "              ** DISK DIRECTO
RY **":LPRINT
140 A$=" ":B$=" ":INPUT #1;A$,B$:LPRIN
T A$;"      ";B$
150 GOTO 140
160 LPRINT A$;"      ";B$
170 CLOSE #1:CLOSE #2:GRAPHICS 0
```

COMPUTER GAMING WORLD . . . Cont.

If your gaming interests lie in the strategy field or you prefer to exercise your 'thinking'ability rather than your reflexes then Computer Gaming World is well worth £1.95 every two months. Quite apart from being an interesting read, you will get more out of your existing games and will have a much better idea of what to buy as your next piece of software. No other computer magazine that I can think of will give you reviews of such depth. Games Workshop have branches in various parts of the country but if you can't find a branch nearby give the Birmingham shop a ring on 021-632 4804 for more information.

FOUR IN A ROW . . . Cont.

```
4300 GO=STCOL
4400 COLNO=INT(RND(1)*7)+1
4410 IF LINE(COLNO)=0 THEN GOTO 4400
4500 GOTO 1000
5000 END
10000 REM SET UP DISPLAY LIST
10004 REM STD. LIST IS 80 LINES GR.MOD
E 7 + 4 LINES GR.MODE 0
10006 REM CHANGE TO 1 LINE GR.MODE 1 +
 72 LINES GR.MODE 7 + 4 LINES GR.MODE
0
10010 DLIST=PEEK(560)+PEEK(561)*256+4
10020 POKE DLIST-1,70:POKE DLIST+2,6
10030 I=3
10040 DLHI=PEEK(DLIST+I+6)
10045 RETURN
10050 POKE DLIST+I,PEEK(DLIST+I+6)
10060 IF DLHI=PEEK(561) THEN RETURN
10070 I=I+1
10080 IF I>100 THEN STOP
10090 GOTO 10040
```

TINY TEXT

Stan Ockers and Jim Carr

Fancy using your 400 or 800 as a mini word-processor? Even if you don't have a printer? TINY-TEXT will allow you to do just that. It is a very clever cassette (or disk) based text editor which will allow you to compose letters or articles and send the cassette through the post to be read or printed straight out by the receiver. It was developed by Stan Ockers for the Eugene ACE Newsletter to enable readers to send in 'ready' copy and I hope readers will start using it to send in articles to PAGE 6 as well as writing to each other.

USING THE PROGRAM

The OPTION key is used to select one of five options: LOAD, EDIT, PRINT, SAVE and DISPLAY. The following paragraphs describe the use of each of these functions.

LOAD OPTION

The LOAD option is used to re-load text which has been saved on cassette or disk. When the LOAD option is selected you will be asked to give a file name of the text you wish to load.. If the text is on cassette simply type C (no quotation marks). The computer will 'beep' once in the normal way to remind you to set up the recorder. Then press RETURN and the text will load. If you are using disk, type the complete file name of the text file. For example D:TEXT1.TXT.

EDIT OPTION

The EDIT option lets you enter text or make changes to text already entered. ENTERING TEXT: When the Edit mode is requested, a blank area (text window) appears in the centre of the screen. Up to three lines of text can be typed in this window. Pressing RETURN causes the text in the window to be added to the text already entered. You can use all the standard screen editing functions to edit any text in this window. NOTE however that all trailing blanks in the window will be deleted so each line should be ended with a complete word and a blank used to start the next line.

Functions such as tabbing and indentation are controlled by special formatting symbols. These symbols always cause the current line to be ended before the requested formatting function is executed. The following formatting symbols may be used:
CTRL-E End current line and start a new line with no indentation.
CTRL-I Indent the next line.
CTRL-S Space before starting the next line.
CTRL-T Tab over a set number of spaces before starting the next line.
CTRL-C Centre the next line.
CTRL-P Advance the printer forms to the top of the next page before printing the next line.

EDITING TEXT: When you are in the Edit mode, pressing the SELECT key will cause the line of text below the window to be moved up into the window. The normal screen editting functions can then be used to change the text in the window. Use the joystick to scroll the desired line to the position below the text window and from side to side if needed. Pressing SELECT twice without making any changes, simply moves the text line into the window and back again. To delete a line of text move it to below the text window and press RETURN. Pressing the joystick trigger will cause you to jump to the end of the present text.

PRINT OPTION

This option prints the formatted text on your printer. Before the printing begins you have a chance to alter the default setting for line length, tab stop etc. Use the screen edit functions to make the desired changes, then press RETURN. The items which may be changed are:
LINE - Line length (max. characters per line)
INDENT - The no. of spaces to be indented (left margin)

TAB STOP - The number of spaces for the tab
PAPER SIZE - The total number of lines which can be printed on a fully covered page.
FORMS FEED - The no. of lines to skip to seperate the bottom of one page from the top of the next. For example, if you require 3 blank lines top and bottom, then set forms feed to 6.

SAVE OPTION

This option lets you save your text on either cassette or disk. When the Save option is chosen you will be asked to enter a file name. If you are using cassette simply type C and then set up the recorder when you hear two 'beeps'. Press RETURN. If you are using disk enter a complete legal filename.

DISPLAY OPTION

This option displays text in formatted form on the screen. It uses the same format change function as the Print option excepting Paper Size and Forms Feed.

Get used to the above control functions and you will have a very easy to use and versatile text editor. If you wish to make any changes to the program you should first change line 14 which automatically expands the main data storage array T$ to the memory size of your computer. Try changing "SIZ=FRE(0)-50" to "SIZ=FRE(0)-500". When you have finished making any changes restore line 14 to its original form.

Any system errors are trapped and printed out by the program. You are then prompted to press RETURN. If you make any mistakes such as selecting LOAD or SAVE when you did not want to, enter an illegal file name and you can easily recover by pressing return.

There you have it! A brilliant little program that I have been using to get all the copy ready for this magazine. If you can make any improvements let me know and I will let ACE know. Above all start using this to write a few magazine articles - even with 16K and no printer, you now have the opportunity to widely expand the use of your Atari.

```
1 REM ****************************
2 REM *  TINYTEXT by STAN OCKERS  *
3 REM *   and JIM CARR - FIRST    *
4 REM *      PUBLISHED IN ACE     *
5 REM *         NEWSLETTER        *
6 REM *  3662, VINE MAPLE DRIVE   *
7 REM * EUGENE,OREGON 97405,U.S.A *
8 REM ****************************
12 DIM SP$(40):FOR I=1 TO 40:SP$(I,I)=
" ":NEXT I
14 DIM S$(45),I$(120),A$(128):SIZ=FRE(
0)-50:DIM T$(SIZ):FOR I=1 TO 45:READ A
:S$(I)=CHR$(A):NEXT I
20 DATA 104,104,133,204,104,133,203,10
4,133,206,104,133,205,104,104,168,162,
0,161,203,145,203,198,203,165
30 DATA 203,201,255,208,2,198,204,165,
203,197,205,208,236,165,204,197,206,20
8,230,96
40 FOR I=1536 TO 1643:READ A:POKE I,A:
NEXT I
50 DATA 104,104,133,204,104,133,203,10
4,133,206,104,133,205,162,0,169,240,32
,53,6,169,40,32,91,6
60 DATA 165,207,208,8,169,160,32,91,6,
24,144,10,169,40,32,53,6,169,120,32,91
,6,169,240,32,53,6,96
70 DATA 133,208,161,203,201,96,176,11,
201,32,176,5,24,105,64,208,2,233,32,12
9,205,230,203,208,2
80 DATA 230,204,230,205,208,2,230,206,
198,208,208,221,96,133,208,169,0,129,2
05,230,205,208,2
90 DATA 230,206,198,208,208,244,96
110 P=241:POKE 207,0:POKE 82,0:OPEN #2
,4,0,"E:":T$(1)=".":T$(480)=".":T$(2)=
T$
120 SCR=PEEK(88)+256*PEEK(89)+120:LL=7
0:LM=5:IND=5:TAB=49:PS=66:FF=6:GOTO 50
0
290 ? "INSERT TEXT OR ...  PRESS SELEC
T TO EDIT"
295 POKE 702,0:REM Ensure lower case i
nput
300 POSITION 0,0:? SIZ-LEN(T$);" FREE
   ":S=STICK(0):IF S=15 THEN 330
305 IF S=14 AND P<LEN(T$)-320 THEN P=P
+40
310 IF S=13 AND P>280 THEN P=P-40
315 IF S=11 AND P<LEN(T$)-280 THEN P=P
+1
```

........over

```
320 IF S=7 AND P>241 THEN P=P-1
330 A=USR(1536,ADR(T$)+P-241,SCR)
335 K=0
340 POKE 53279,8:PK=PEEK(53279):IF PK=
5 THEN GOSUB 900
350 IF PK=3 THEN 500
360 IF PEEK(764)<255 THEN 400
365 K=K+1:IF K<10 THEN 340
370 IF STRIG(0)=0 THEN P=LEN(T$)-240:P
OKE 207,0
380 GOTO 300
400 POSITION 0,10:INPUT #2;I$:PK=PEEK(
207):IF PK=0 THEN A$=""
405 LI=LEN(I$):LT=LEN(T$):IF LI=0 THEN
 460
407 IF LI+LT>SIZ THEN POSITION 0,1:? "
OUT OF SPACE         ":GOTO 300
410 IF PK=1 THEN A$=T$(P,P+39):IF T$(P
+39,P+39)=" " THEN I$(LI+1)=" ":LI=LI+
1
420 LA=LEN(A$):AD=ADR(T$):IF LI>LA THE
N A=USR(ADR(S$),AD+LT-1,AD+P-2,LI-LA)
430 T$(P,P+LI-1)=I$
440 IF LA>LI THEN T$(P+LI)=T$(P+LA)
450 P=P+LI:T$(LT+LI-LA+1)="":POKE 207,
0:GOTO 300
460 IF PEEK(207)=1 THEN 470
465 IF P<LEN(T$)-279 THEN T$(P)=T$(P+4
0)
470 POKE 764,255:GOTO 300
500 TRAP 950:ST=PEEK(560)+PEEK(561)*25
6+4:POKE ST-1,70:POKE ST+2,7:POKE ST+3
,112:POKE ST+4,6:POKE ST+5,6
505 POKE ST+24,65
510 POKE ST+25,PEEK(560):POKE ST+26,PE
EK(561)
515 OP=OP+1:IF OP=6 THEN OP=1
520 ? CHR$(125):POSITION 20,0:IF OP=1
THEN ? "LOAD "
522 IF OP=2 THEN ? "EDIT"
534 IF OP=3 THEN ? "PRINT"
536 IF OP=4 THEN ? "SAVE"
538 IF OP=5 THEN ? "DISPLAY"
540 POSITION 0,1:? "PRESS START TO BEG
IN"
550 FOR D=1 TO 30:NEXT D
555 POKE 53279,8:IF PEEK(53279)=3 THEN
 515
557 IF PEEK(53279)<>6 THEN 555
560 POKE 764,255:POSITION 20,1:? CHR$(
125):POSITION 0,1:ON OP GOTO 2000,290,
590,1500,590
580 REM ** *=ESC TAB,ARROWS IN LINES 5
90 AND 595 - LINES 594 AND 595 IN INVE
RSE
590 FOR I=1 TO 6:? "*";:NEXT I:? :FOR
I=1 TO 6:? "        ";:NEXT I:? "   "
594 POSITION 0,1:? "SET FORMAT CONTROL
S":POSITION 0,6:? "LINE  LEFT    IN-
  TAB      PAGE  FORM";
595 ? "SIZE  MARG     DENT     STOP    S
IZE  FEED";:? "   ";LL;",*";LM;",*";IND
;",*";TAB;",*";PS;",*";FF:POSITION 0,8
600 INPUT LL,LM,IND,TAB,PS,FF:P=240
710 LINE=0:GRAPHICS 0:POSITION 0,3:FL=
0
715 RL=LL:TP=P:B=ASC(T$(TP,TP))
720 RL=LL-IND*(B=9)-TAB*(B=20)
725 IF B=19 AND OP=3 AND LINE<=(PS-FF)
 THEN LPRINT " ":LINE=LINE+1
726 IF B=19 AND OP=5 THEN ?
727 IF B=16 AND OP=3 THEN FOR I=1 TO P
S-LINE:LPRINT " ":NEXT I:LINE=0
728 IF B=16 AND OP=5 THEN ? :? :? :LIN
E=0
735 C=0:K=0
740 K=K+1:TP=TP+1:IF K=RL+1 THEN 765
745 IF TP>LEN(T$)-241 THEN FL=1:GOTO 8
10
750 A=ASC(T$(TP,TP)):IF A<32 THEN C=0:
GOTO 780
755 IF A=32 THEN C=C+1
760 GOTO 740
765 IF C=0 THEN A$=T$(P+1,TP-1):TP=TP-
1:GOTO 810
767 IF T$(TP,TP)=" " THEN A$=T$(P+1,TP
-1):GOTO 810
768 IF T$(TP-1,TP-1)=" " THEN C=C-1
770 K=1
775 TP=TP-1:IF T$(TP,TP)<>" " THEN K=K
+1:GOTO 775
780 IF TP=P+1 THEN P=TP:GOTO 715
785 A$="":I=P+1
790 A$(LEN(A$)+1)=T$(I,I):IF T$(I,I)<>
" " THEN 805
795 IF C>1 THEN A=INT(K/C+RND(0)):IF A
>0 THEN FOR J=1 TO A:A$(LEN(A$)+1)=" "
:NEXT J:K=K-A
800 C=C-1
802 IF C=1 AND K>0 THEN FOR J=1 TO K:A
$(LEN(A$)+1)=" ":NEXT J
805 I=I+1:IF I<TP THEN 790
810 IF FL THEN A$=T$(P+1,TP-1)
815 IF OP=3 THEN LINE=LINE+1:IF LINE>(
PS-FF) THEN LINE=1:FOR I=1 TO FF:LPRIN
T " ":NEXT I
820 SP=LM+(B=9)*IND+(B=20)*TAB+(B=3)*(
LL-LEN(A$))/2:IF SP>40 THEN SP=40
830 IF OP=3 THEN LPRINT SP$(1,SP);A$
840 IF OP=5 THEN ? SP$(1,SP);A$
845 POKE 53279,8
850 IF FL THEN ? :? :? " END OF PRESEN
T TEXT. PRESS START"
855 IF FL THEN IF PEEK(53279)<>6 THEN
855
856 IF FL THEN 500
860 P=TP:GOTO 715
900 PK=PEEK(207):IF PK=1 THEN POKE 207
,0:GOTO 930
910 IF PK=0 AND P<LEN(T$)-279 THEN POK
E 207,1
```

TINY TEXT . . . Cont.

```
930 A=USR(1536,ADR(T$)+P-241,SCR):FOR
D=1 TO 50:NEXT D:RETURN
950 ? "ERROR ";PEEK(195);" AT ";256*PE
EK(187)+PEEK(186):? "PRESS RETURN TO C
ONTINUE":INPUT I$:GOTO 500
1500 ? " ENTER FILE NAME":INPUT I$:OPE
N #3,8,0,I$:N=INT(LEN(T$)/128):PRINT #
3,N:IF N=0 THEN ST=0:GOTO 1520
1510 FOR I=1 TO N:ST=128*I:PRINT #3;T$
(ST-127,ST):NEXT I
1520 PRINT #3;T$(ST+1,LEN(T$)):CLOSE #
3:GOTO 500
2000 ? " ENTER FILE NAME":INPUT I$:OPE
N #3,4,0,I$:INPUT #3,N:IF N=0 THEN BEG
=-127:GOTO 2020
2010 GRAPHICS 0:FOR I=1 TO N:BEG=128*I
-127:INPUT #3,A$:? A$;:T$(BEG)=A$:NEXT
 I
2020 INPUT #3,A$:T$(BEG+128)=A$:CLOSE
#3:POKE 1536,104:GOTO 500
```


User Groups

PAGE 6 will try and promote User Groups in the U.K. if Club Secretaries will send in details. If you are new to Atari computing then the best way to learn is to meet other folks who have the same interests. Whether you are an expert or complete novice, any of the Groups below will welcome you at their next meeting.

MERSEYSIDE ATARI COMPUTER CLUB.

Meetings every other Tuesday (next one 8th March) at:

THE BRADFORD HOTEL,
TITHEBARN STREET,
LIVERPOOL.

The Club have been going for some while now and have a software library, run tutorials, arrange discounts etc. Meetings start at 7.00 p.m. and you can go along to the first one free. For more details contact Roy Gibson on 051 606 9553

PRESTON ATARI COMPUTER ENTHUSIASTS,

Meetings on the 3rd Thursday of every month at 7.30 p.m. Meet at:

KNIGHTS OF ST. COLUMBIA,
OFF BLACKPOOL ROAD,
BEECH GROVE,
ASHTON, NR. PRESTON.

Despite their name, all makes of computer are represented. Contact Rowland Taylor on 0253 738192 for details.

EDINBURGH AND LOTHIANS ATARI USER GROUP

Meetings are held on the 1st and 3rd Thursday each month, commencing 7.30 p.m. at:

ASTON HOTEL,
ASTON CRESCENT,
EDINBURGH

Contact Silicon Centre 031 557 4546 for more details.

Software

STRATOS

ADVENTURE INTERNATIONAL 16K CASS.

1/2 PLAYERS 32K DISK

Stratos makes no pretensions, it is definitely an arcade game - it even starts with a request for you to 'Insert Coin or Press Start'! Perhaps you put the coins in that mysterious right hand slot on the 800!

Stratos is played on a single screen where you have a city which is defended by a force field beamed overhead from towers at each side of the screen. At the base of each tower are land based guns which can be aimed at attacking enemy craft with a 'floating' sight. M'Korg Starjammers in groups of three are out to destroy firstly the force field and then the city. The two guns fire together and the resulting 'energy' collides at the point of your aim and spills out to destroy your enemy. This effect diminishes however as the enemy begin to destroy the power towers inside the City. The game plays well and is not too difficult - at least at the Novice level-and has a few nice touches such as the ability to change the background and City colours to any colours of you choice, from restful to glaring! There is a continuous sound of the force field being generated but if this begins to fray your nerves you can change the pitch to a more restful level.

There are one or two player options and a high score feature as well as two skill levels. There is also a repair saucer with the ability to patch up the force field during 'pauses in play' although when these occur I am not sure! When the enemy stops attacking, you are faced with a meteor shower!

For an arcade game which runs on 16K cassette Stratos is pretty good although the more advanced gamer may find it a bit too easy - unless there is something more lurking at the higher score levels. There are no levels as such - the scoring is along the lines of the popular arcade games in that you score bonus points at the end of each 'wave' and get a bonus saucer at 20,000 points. Another good quality arcade game but with a slight difference and well worth a try.

PREPPIE

ADVENTURE INTERNATIONAL 16K CASS.

1/2 PLAYERS 32K DISK

PREPPIE is probably quite well known by now but deserves a mention as it has some of the best graphics and sound of all the Atari games developed so far. Make that all the COMPUTER games developed so far, because no other home computer can come near achieving the capabilities of the Atari and this game proves it.

PREPPIE is like Frogger in that you have to get your 'Preppie' (American for schoolboy) across the golf course with assorted mowers, tractors and golf buggies and then across a river with boats, logs and alligators. In this game however you must retrieve golf balls and make it back again. The game is not too difficult to play (I scored over 12000 the first try!) and is probably ideally suited to children even if they just watch you play. The graphics and the music will keep them enthralled and there will be howls of laughter when the Preppie falls in the river or gets squashed by a golf cart!

The game obviously gets more difficult as you go through the levels but is probably one which you could actually master. Even level 10 is not that difficult, but then I have discovered a way of jumping straight to level 10 and starting with five men instead of three! (Any offers?)

If you have a young family, this game is ideal. The instructions include a five page story introduction and even if the young ones can't get very far in playing, they will love watching.

SEA DRAGON

ADVENTURE INTERNATIONAL 16K CASS.

1/2 PLAYERS 32K DISK

What about an arcade style game that is nice and relaxing, instead of having you jumping out of your seat? At first sight SEA DRAGON appears to be just the thing.

Your submarine glides slowly along and you can dive or surface at realistically slow speeds all the while accompanied by the soporific deep 'bleep' of the radar. All you need to do in the game is to shoot mines which are either tethered or on the seabed and then negotiate some underground passages. Great, I thought, no more ending up a nervous wreck after fighting off the first hoard of aliens. Wrong! There are no aliens, but SEA DRAGON turns out to be just as nerve wracking to play as all the best arcade games. The problem is, believe it or not, the very slowness of the game. The mines on the seabed break loose at random and float upwards. Unless you have anticipated them and have time to fall back, you are stuck trying to slowly back away whilst knowing you are not going to make it! Negotiating the underground passages is difficult as there is very little room and rising vertically takes some control as the screen is scrolling at a constant rate. You have to both go up and backwards at the same time to avoid deadly contact with the walls. Farther on into the game the passages get narrower, the mines more frequent and ships above drop depth charges. Oh, and by the way, there are 'Supershooters' protecting some of the passages and forcefields protecting the Master Mine. And you can run out of air if you don't surface regularly.

I started off thinking this a very easy game, got fed up with it when I found out how hard it is but now that I have managed to negotiate some of the passages, have become quite addicted. One minor criticism is that the High Score feature is set at 5000 before you start the game and it takes a long while to have your scores registered!

SHAMUS

SYNAPSE 16K CASS.

1 PLAYER 32K DISK

I sat back, covered in perspiration, nails bitten to the quick and a feeling in the pit of my stomach that is indescribable. My name is SHAMUS and I have just returned from the latest attempt to trap that evil creature, the Shadow, in his lair. He lives four levels down inside an underground hideaway. Each level can only be reached by obtaining coloured keys to fit the matching locks. As I ventured along passageways and through rooms, the guardians of the shadow attempt to kill me. They come in many guises and are deadly. The first level contains 37 rooms and passages, each one different from the next. The walls are electrified and contact means certain death. Right, I feel better now, one more try.

SHAMUS is one of the best programs to come from Synapse, using all the best in sound and graphics your Atari can offer.

Mike Reynolds-Jones.

GETTING STARTED

Les Ellingham

It is quite often the small things that can make an ordinary program a little bit more special. If you take care in the presentation of your program including such things as titles and instructions, you will end up with a program which will impress people from the start.

Here are a couple of simple routines to add life to the beginning of your programs. Listing 1 for Graphics 0 simply POKEs the Character Base Register at location 755 with a 1 which makes all inverse characters disappear. Try changing the loop in line 60 to any combination between 0 and 4 for different results. Alter the value of the step to change the speed of the flashing.


```
10 GRAPHICS 0:POKE 752,1
50 ? CHR$(125):POSITION 10,21:? "PRESS
 START TO BEGIN":REM START IN INVERSE
60 FOR I=1 TO 2 STEP 0.01
70 POKE 755,I
80 IF PEEK(53279)=6 THEN 100
90 NEXT I:GOTO 60
100 ? CHR$(125):? "PROGRAM HAS STARTED
"
```

Listing 2 works in Graphics 1 or 2 and simply cycles the inverse characters through the colors available. Location 710 controls the color value of inverse upper case letters in these modes.

```
10 GRAPHICS 1+16
20 ? #6;"PRESS START TO BEGIN":REM STA
RT IN INVERSE
30 FOR I=0 TO 255
40 POKE 710,I
50 IF PEEK(53279)=6 THEN 100
60 NEXT I:GOTO 30
100 ? #6;"PROGRAM HAS STARTED"
110 GOTO 110
```

Listing 3 runs through a string and makes each character 'inverse' which in Graphics 1 & 2 simply changes the color of the characters. Try adding some sound to this routine.

```
5 DIM A$(20)
6 A$="PRESS start TO BEGIN"
10 GRAPHICS 1+16
20 POSITION 0,1:? #6;A$
30 FOR I=1 TO LEN(A$)
40 A$(I,I)=CHR$(ASC(A$(I,I))+128)
50 POSITION 0,1:? #6;A$
55 IF PEEK(53279)=6 THEN 100
60 NEXT I
70 GOTO 30
100 ? #6;"PROGRAM HAS STARTED"
110 GOTO 110
```

First Steps

First steps this month will concentrate on a problem which I know is common to many of our readers. How to get VULTURES III running!

Whilst much of what we will say will be specific to Vultures many of the principles will apply to all listings which are typed in from magazines. The first hard lesson to learn - like it or not - is that 98% (or so) of the time the reason that a program won't run is because YOU have made typing mistakes! Don't get upset, I make typing errors so does everyone I have come across - we all have to learn the hard way. Although the listing of Vultures was not very clear (blame the Atari 822 printer which has now died completely) the program does run as listed.

Lesson number one is, when any program has machine language in it, SAVE IT BEFORE YOU RUN IT. Any mistakes in entering data can lock up your machine making the only means of recovery to switch off and start again. Machine language is usually included in a Basic program as a series of DATA statements so when you see blocks of DATA - beware! It is probably a good idea to get into the habit of saving ALL Programs before you run them and you don't have to wait until you have completed a listing, you can save it at any time making it possible to put in a long listing over several evenings. The biggest headache is to try and find out where you are likely to have made your mistake - not easy! Common errors in typing DATA statements include typing an O (letter) instead of a 0(figure), using a full stop instead of a comma or missing out commas thus ending up with numbers greater than 255. Most of the problems in Vultures stemmed from these type of errors in the big block of DATA between lines 2000 and 2080. If you have still not got it running try making the following changes which will check the DATA.

```
LINE 2000 delete :NEXT I
Add line 2085 TOT=TOT+A:N.I:IF
TOT<>39259 THEN ? "ERROR IN
DATA":TOT=Ø:STOP
```

If you get the error message, there is no getting away from it - you must check every one of those DATA statements!

If you get ERROR 8 messages when reading in DATA then you have characters or punctuation in the statements. If you are using a FOR...NEXT loop to read in the data then you can pinpoint the area of the error by asking the computer to print the value of the FOR...NEXT variable and the value of the last statement read. For example if you get an ERROR 8 message in line 2000 of Vultures, the loop variable is I and the variable for the DATA is A. Ask the computer to PRINT I,A. The two figures you get are first the number of times the loop has executed before coming to the error and secondly the value of the last CORRECT data statement read. You should be able to count through the DATA statements to the I'th number which should be wrong. The number before should be your last correctly read item of data.

This idea of checking variables is very useful for tracing bugs. You can always stop a program at any time by using the BREAK Key and then ask the computer to PRINT the value of a variable or the content of strings. If you can figure out whether a variable is behaving correctly you should be able to narrow down the likely area of error.

If you still can't get Vultures going and you feel it is because you may have read the bad (awful?) printing wrongly, send me a stamped addressed envelope and I will send you off a full original listing.

Would anyone like to write this colum for a future issue? It would be interesting to get alternative views - perhaps a humorous story, incorporating a few hints and tips of how you survived that nerve-wracking first few months with your new Atari computer? Let me know........

B.U.G. Club call

Well BUG at last appears to be settling down and making some real progress. Many of the members who came to the Constitution meeting at the end of November seem to have stayed away from subsequent meetings but they have missed some good meetings since. Agreed the constitution evening was a bore, but it was vitally necessary for the survival and well being of the Club.

Our 'Christmas Special' meeting on the 9th December, although perhaps a bit early to be really festive, went very well with plenty going on. The local retailers generously supported the evening with the donation of prizes for the various competitions and in fact there were so many prizes available that we found it hard to give them all away! The main event of our meeting of 27th January was a talk by Lawrence Miller of Games Workshop on strategy and adventure type games, an area which is not too well represented in the present 'arcade' era. If you missed either of these meetings you missed something good.

Mike Aston has begun a series of beginners classes for basic which represents a good opportunity to discuss any problems you may have if you are just starting, whilst Colin Boswell is trying to get together a discussion group on Assembler. Other courses and classes are possible but the success of those already arranged and future events depends on you. You must let the committee know what you want and more importantly be prepared to join in and support any activity.

There have been some changes recently on the Committee and the Officers of the Club are now:

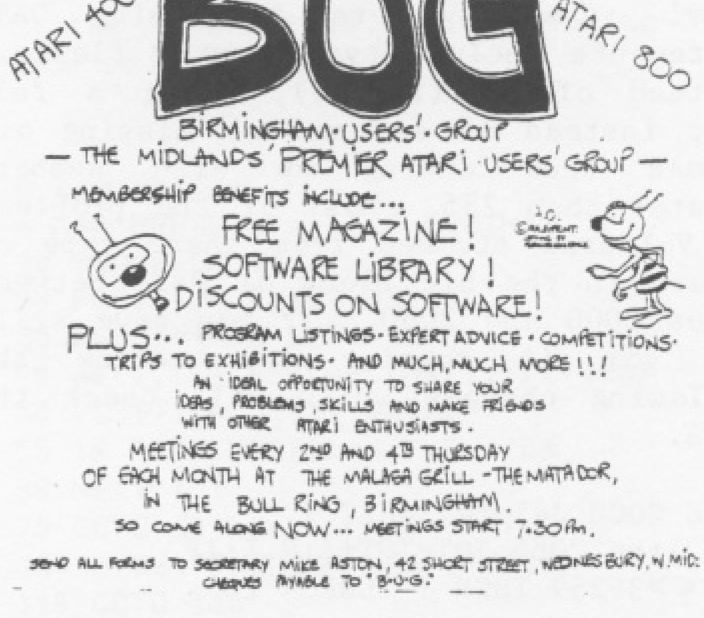
Chairman - Mike Reynolds-Jones
Vice-Chaiman - Keith Mason
Secretary - Mike Aston
Treasurer - Steve Gould

Get to know these people and the rest of the committee and let them know what you want the club to arrange and how you are willing to help.

Steve Gould now has a software library running where you can off-load your unwanted software and borrow other games, books and magazines. The scheme is growing fast so make sure you don't miss out, ask Steve for details at the next meeting.

Lots of other ideas are in the melting pot and we are making contact with other User Groups. Come along to future meetings to find out more, but don't just sit there, bring along some ideas or your programs. Even if you just grab one of the committee members and say 'Would it be possible to .....', you will have done your bit to help BUG grow into the best User Group in the U.K. Watch out America!

One area we should be looking into is building a library of software written by members of the Group. If you bring along programs you have written you can discuss these with other members and when they are ready they can build into a 'user written' library. Once built up, the possibilities for exchange with other groups arise, particularly with User Groups in America where exchange of libraries is one of the best means of contact and learning. Some of the bigger Groups in America have libraries of over 3000 programs.



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NEW

THE CONSTRUCTOR

THE CONSTRUCTOR is probably the most versatile and useful utility yet devised for Atari. It will enable the user to design up to 4 players and then save the relevant bit-map data in a form that can be merged with the users own program. Some of the main features are:—

CONSTRUCT PLAYER: Using a joystick, players of up to 22 lines high can be designed and edited.

REPLICATE PLAYER: Build a player, then copy that shape for players 2, 3 and 4. This allows sequence images to be very easily designed.

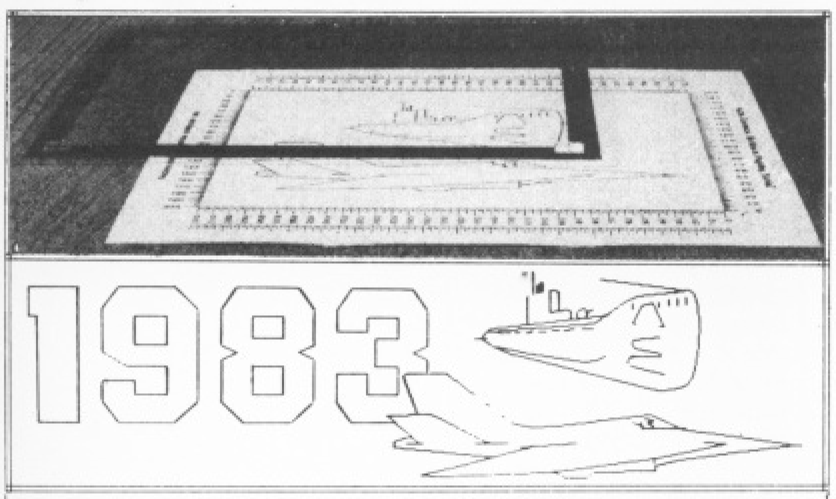
EXAMINE PLAYERS: It is possible to overlay and animate players while they are at the design stage.

THE CONSTRUCTOR is available only on disk and requires 48K of memory. The price is £24.95 inc. p. & p. Send for details.

Atari 400 Computer (16K) £199.00
Atari 400 Computer (48K) £289.00
Atari 800 Computer (16K) ... £339.00
Atari 410 Recorder .... £ 49.99
Atari 810 Disk Drive £299.00

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Preston, Lancs.
Tel: (0772) 53057



VICTAGRAPH – PLOT WINDOW

The above photographs show VICTAGRAPH PLOT WINDOW and demonstrations RUN on ATARI 400. GR 8.
Have you got PLOT, DRAWTO or similar to an absolute coordinate?.
Could you draw the above screen display?.
Without using graph-paper?
Place your drawing in the VICTAGRAPH and your are ready to plot all the points, using the movable window mask and easy to read scale. Plot 0,0 in each corner and a fully adjustable window to 320,200...working area 13" x 8" total size 17" x 12" approx.
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PREPPIE

Tee off on this crazy green. Cross the alligator filled river to recover wayward golf balls. In this game danger lurks everywhere. With 28 Atari colours and super graphics, this game will delight and thrill the gamester.

Cassette £21.99 Disc £21.99

BUG OFF

Here is the wackiest arcade style game yet. Your garden has fallen into a Florida sink hole where weird forces have released a bevy of bizarre bugs. You must destroy them with pincer sharp graphics and colour and "your weapon DDT" — will you have time?

Cassette £21.99 Disc £21.99





TUTTI FRUTTI

Savour a frutti feast. With your famished fruit munching "hunger" bite a banana, gobble a grape or polish off a pear. But look out for the nasty bugs that would spoil the fun. In this colourful jungle feast you may even get a crack at the everlasting Tutti Fruttiness!

Cassette £17.99 Disc £17.99

ELIMINATOR

Fans of this game — now it's available for the Atari 400 and 800. Pilot your Eliminator Craft over alien terrain and fight the hoards of marauding enemy ships. Superlative graphics and realistic sounds make this arcade style game exciting to the end.

Cassette £17.99 Disc £17.99





SEA DRAGON

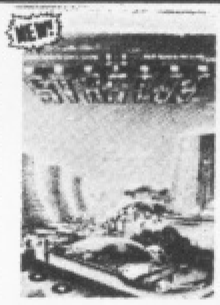
Prepare to dive in your nuclear armed sub. Guide your submarine through a labyrinth of passages and past underwater mountains. Try to avoid webs of explosive mines that rise from the sea bottom. With mine dropping ships above, deadly lasers and stalactites, try to reach your goal — destruction of the nuclear reactor. Will you succeed in this creative game?

Cassette £25.49 Disc £25.49

STRATOS

This is a kaleidoscope explosion of awesome graphics and other-worldly sounds beyond all arcade style games. Above futuristic Megopolis sweep a wave of alien craft releasing awesome weaponry — the terrifying matter ravagers! With your joystick control of the Armageddon wave can you destroy them in time?

Cassette £25.49 Disc £25.49



ZAXXON

This sensational arcade game of 1982 is now available for use on your home computer system. Fly through a three dimensioned like playfield to attack the fortress and its deadly armoured Robot. Survive this battle and earn the ultimate challenge!

Cassette £29.99 Disc £29.99

ASTRO CHASE

Here is the ultimate challenge. Defend the Earth from an awesome attack by aliens. There is no escape from their force field set around our galaxy! They launch their attack vessels and the chase begins — avoid deadly lasers, destroy space mines — save the Earth from inevitable doom.

Cassette £26.50 Disc £26.50

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